



MILITARI

Milwaukee Area Atari Users Group

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MILATARI EVENTS

JANUARY 17, 1987

4th Annual Swap Fest


at ARMBRUSTER SCHOOL 7000 Greenway, Greenfield

2:15PM ST SIG Meeting
C/Action Class
3:30PM Demos
Business Meeting

January 19 7:15PM Board of Directors Meeting Ground Round Hwy100 & Bluemound

FEBUARY 21, 1987

Monthly Meeting Moves to UWM Curtin Hall



CONGRATULATIONS: Jon Duvall

\$25 GIFT CERTIFICATE 1ST PRIZES

Tom Wuttke

Winter Contest Winner
Under 12

Winner Over 16 Catagory

Parnell & Dave Coak and Kenneth Jennings - Honorable Mentions Over 16 Group
SPECIAL THANKS FOR ALL WHO BROUGHT COOKIES AND CAKES! THEY WERE GREAT!



ANTIC'S ADVENTURES

By Dan Kolacz

HOW TO SOLVE ZORK I

(CAUTION: DO NOT read this article if you do not wish to see the solution to ZORK I. This is NOT a hint section, this is the solution!)

So, you're all set for The Great Underground Empire, eh? Okay, but before we begin, a few words about this walkthrough. First, this is not the only way to solve the game. It's just one of the faster ones. Second, because there is no "wasted motion" in this game, you will not be visiting all the locations. So, you might want to play around with the game on your own for a while, mapping out as much as you can, without much regard for gathering treasures. Actually, mapping is a good idea, since, if you make a misstep somewhere, you might find yourself in trouble! Be especially careful to follow the directions when in the mazes; a wrong move there, and you could be lost for quite some time!

Finally, you may not go through this in exactly the way it's written because of the thief. He is a variable item in the game; you never know where he will show up. Try to move out of the room he's in as soon as he shows up. But keep in mind that even if he does steal anything from you, you will get it all back from him in the end. Okay? Let's start the adventure!

You begin West of the house, and your first chore is to get inside. So, go South and East. Open the window and enter the house (you're in the kitchen), then go West into the living room. Get the lamp, then move the rug, revealing the trap door. Open the trap door, turn on the lamp, and go down. At this point, some mysterious person will shut the door on you; don't worry about that for now. Okay, so here you are in the cellar. It's time to pick up your first treasure, so go South, then East to the Gallery. Get the painting, then continue North to the Studio. Go up the chimney (you can only fit with the lamp and the painting), and you will be in the kitchen again. Now, go upstairs to the attic, and get the knife and rope. Come back down and go into the living room.

Open the case and put the painting inside. Then, drop the knife and get the sword. Open the trap door again, and return to the cellar. Again, the door is shut by someone (you never will find out who's doing this, but it doesn't matter). Now you're back in the cellar, and since we're coming to one of the more dangerous parts of the game, you might want to do a save here.

Gripping your trusty sword, head North into the Troll room. There's a nasty troll here with a bloody axe, and the only way past is to kill him. So, do just that: "Kill Troll With Sword." It will most likely take more than one attempt, so keep at it, and eventually he will disappear in

a cloud of black smoke. Now, drop the sword, because you really don't need it any more, and it will hinder you in carrying other, more important items. Having dispatched the troll, you move along East, East (into the Round room), then SE and East. You are now in the Dome room. It's a long way down, and too far to jump, so here's where the rope comes in handy. Tie the rope to the railing, then climb down the rope. You will be in the Torch room. Leave the torch for now; you'll be coming back this way again later.

From the Torch room, go South, then East and get the coffin. Return West, then continue South to the Altar. There's no way you're going to get down that hole with the coffin, and even the program will tell you that you haven't got a prayer. That's a hint, folks: Just "Pray," and you will find yourself in the forest again. Since it's daylight out, save Energy and turn off the lamp. Now, head along South, then North (I know, but it works!) to the clearing, then East to the Canyon View. Climb all the way down to the bottom, then go North to Rainbow's End. Drop the coffin and open it. Inside is a jeweled scepter. Get that, and wave it. The rainbow will become solid (you'll need to cross over from the other side later). Now, "Look." You should see a pot of gold. Get that, and the coffin. After that, go SW, then all the way back up to Canyon View. From there, it's NW to the clearing, and then West to the window. Once in the kitchen, open the bag and get the garlic (nothing else, just the garlic). Go on into the living room, and put your treasures in the case. Now, sit down and take a breather, because you're about to do a lot of traveling!

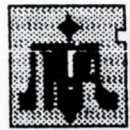
Once again, open the trap door, turn on the lamp, and go down. Watch carefully, and you will notice that this time, the door doesn't close! Whoever was doing it before must have gotten tired. Anyway, you're on your way to the dam, so move along North, East, North, NE, and East. You are now on top of the dam. From there, go North to the Lobby. Pick up the matches, then go either North or East (doesn't matter) into the Maintenance room. Get the wrench and the screwdriver, then push the yellow button. Now, return to the dam, and you will see that the green bubble is lit. Turn the bolt with the wrench, then drop the wrench. You have opened the dam, and you will be coming back this way again to reap the fruits of your labors. However, right now, you're on your way to Hades, so let's get going!

Go South, then down into the Loud room. Leave the platinum bar for now; you'll get it later. Head West into the Round room, then SE and East (hmmmm, haven't you been here before?). Again, climb down the rope. This time, get the torch. At this point, you can turn off your lamp; the torch will provide light so long as you have it. Now, continue straight South, getting the bell, then the book and candles from the altar. Go down the hole to the cave, then down again to the entrance to Hades. Your candles will have blown out by this time, but don't worry about it. Okay, here's where you have to be careful. First, ring the bell. It will become red hot and you will drop it. You will also drop the candles. Stay calm, and do the following, all in



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one command: Get the candles, light match, light candles with match (necessary, because of the torch, and ~~DO NOT~~ use the torch, or you'll vaporize the candles!). Okay, strange things happened when you lit the candles, now read the book. Whew! The demons have been exorcised!

Drop the book, then go South and get the crystal skull. Now, back North, then up to the cave, then North to the Mirror room. By the way, better put out the candles. Rub the mirror, and you will now be in another Mirror room (this one is North of the dam, as the other one is South).

Now, go North, then West, then North, then West into the Squeaky room (well, I told you you'd be doing a lot of traveling this time!). Make sure you have the garlic with you, then go North into the Bat room. So long as you have the garlic, he won't bother you. There is a jade figurine here, but leave it for now. You'll pick it up on your way out.

Go East to the Shaft room. Put the torch into the basket, then turn on your lamp and head North to the Smelly room, then down to the Gas Room (best not to carry any open flames here!). Now, you are about to enter a small maze, so follow these directions ~~CAREFULLY~~! East, Northeast, Southeast, Southwest, down, and you should be at the top of the ladder (if you aren't, may God have mercy on your soul!). From there, go down to the Ladder Bottom, and then South to the Dead End for the coal. Get that, then return to the ladder top. From there, go up, North, East, South, North, and you will be back in the Gas room. Go up, then South to the Shaft room again. Put the coal in the basket, and lower the basket. Now, guess what? You have to go back through the coal mine again! So, make your way to the Ladder Bottom, but this time, go West to the Timber room. Ignore the broken timber (not useful for anything), and drop all but the screwdriver. Now, you can squeeze through the crack to the West. And here you are in the Drafty Room, which is also at the bottom of the shaft. There's the basket, so get the coal and the torch, and move South into the Machine room. Open the lid, put the coal in the machine, close the lid, and turn the switch with the screwdriver. Drop the screwdriver, open the lid, and get the diamond (well, no one ever said Zork was an ~~EASY~~ game!). Now, go back North, and put the torch and the diamond in the basket. Squeeze back East into the Timber room. Get the skull, lamp, and garlic. You won't be needing the matches and the candles any more, so you can leave them. (They were insurance in case the thief came along and stole the torch before you could get the diamond). Now, head East again to the Ladder Bottom, and from there up and through the coal mine (you know the way now!), to the Gas room. Pick up the bracelet, then continue on up and South to the Shaft room. Get the torch and the diamond from the basket, turn off the lamp, then go West into the Bat room. Get the jade, then go South, East, South to the Slide room. Now, here's a fast way back to the cellar: Just go down the slide! Wheeeee! Then it's

up to the living room (remember, the trap door is open now), and all the treasures go into the case. Huff! Puff! Bet you didn't know you'd be doing ~~THIS~~ much running around! But, don't get too relaxed, there's still plenty more to come (urk!).

Turn on the lamp, and return to the cellar. From there, it's North (ah, deja vu!), then East, North, NE to Reservoir South. Now that the sluice gates are open, you can head North, picking up the trunk of jewels, North again to Reservoir North, getting the air pump, and North one more time, getting the crystal trident. After that, go all the way back South again to Reservoir South, then East to the dam, and then East once more to the Dam Base.

Here you find a little pile of folded plastic; guess what it is? Right, it's an inflatable boat! So, inflate it with the pump, then drop the pump, then get inside the boat, say "Launch," and you're floating off along the Frigid River. Now, just keep waiting until you see the buoy. Get that, then "East" to the beach. Get out of the boat, then get the shovel and move on to the Sandy Cave to the NE. You might want to save the game at this point, since you have to dig here until the scarab turns up, and I'm sure you don't want to get buried alive (it's been known to happen!). Okay, drop the shovel and get the scarab, then go back SW. Drop the buoy and open it; inside is an emerald. Get that, then continue South to the Aragain Falls. Here you can cross the rainbow (so do that!), which brings you to the End of The Rainbow. Turn off the lamp, then go SW to the Canyon Bottom. From there, make your way back to the living room, and put all the treasures in the case. Your collection is quite impressive by now, but you aren't finished yet. Go East twice, then North twice. Climb up the tree and get the egg. Climb down again, and go South, East, and back to the living room. However, this time, you don't put the treasure in the case. Turn on the lamp, and go down (once again!) into the cellar, and North to the Troll room. Now, you are about to enter a maze, so follow the directions very carefully!

West (this brings you into the maze), South, East, up, and you find several items here. Take only the coins and the key, and be careful not to touch the skeleton! From here, go SW, East, South, SE, and you will be in the Cyclops room. The Cyclops is not friendly, but you can deal with him effortlessly: Just type in "Ulysses" (or "Odysseus," if you prefer). Old One-Eye will tear out of there right through the wall! In fact, he will create a passage eastward from that room right into the living room! However, you don't want to go that way yet! Instead, go upstairs, and you will be in the Treasure Room, the thief's secret lair. Now, give him the egg, and go back downstairs, then East to the living room. Deposit the coins in the case, then get the knife (the thief needs a little time to open the egg). Okay, go back West to the Cyclops room. Again, at this point, saving is recommended; the thief will not be easy to



kill! So, head upstairs and use the nasty knife to kill the thief. Once he's dead, all treasures in the room will be visible. This includes the egg, a silver chalice, and anything he may have stolen from you before. Get everything, then follow these directions: Down, NW, South, West, up, down, NE, and you will be in the Grating Room. Unlock and open the grate (watch out for falling leaves!), then go up. You will be in a clearing.

From there, go South and climb the tree again. Wind up the canary that's inside the egg. A songbird will come by and drop a bauble for you. Climb down again and get the bauble, then return to the living room. Put all the treasures in the case, making sure you ~~REMOVE THE CANARY~~ from the egg and put it in the case separately! You're almost finished! Just one more trip to make!

Now, for the last time, enter the cellar and go North. From the Troll Room, go East until you come again to the Loud Room. Type in: "Echo", and you will now be able to get the bar. So, grab it and return to the living room. Once you place it in the case, you will get a message. Follow the advice of the message, and you will get a sap. Take that, and return to the place where this all started, the mailbox West of the house. You should have no trouble getting to the barrow from here. Of course, once you enter the barrow....You really didn't think it would end there, did you? Not when there's Zork II and Zork III waiting for you up ahead! Ah, but it's too late; you can't turn back now! You'll just have to grit your teeth and follow through to the end (with a little help, of course). See you in Zork II!



Please Write an Article
for the MILATARI Newsletter
before your editor has to
resort to this!

To copy a whole disk from single sided to double sided or to copy from or to, a ram disk just open both directories and drag the icon (of the source disk) into the open window of where you are copying to (destination drive or ram disk).

This is better than dragging them one window at a time.

When you look at text or document files, you select print, show, or cancel. Print if you want a hard copy or show to look at it on the screen. The following commands work while you look at it on the screen.

RETURN: Show the next few lines.

SPACEBAR: Scroll one full screen.

Q: Return to the desktop

ST TIPS

If you ever want to get files out of a folder and back into the main directory, here's how. First double click the disk icon to open up the directory. Then open up the folder. Second you open up the directory again by double clicking the disk icon (move the directory if you need to). Third you will now have two windows open, one of the main directory and the other with the contents of what is in the folder. Copy the file from the folder directory to the main directory and you are done. You can now delete the file from the folder.

On the ST you can have up to 4 windows open at a time. Only one of them is the active one. You can tell which one is the active window by the horizontal lines on the move bar at the top of the window. You can get a new directory of the active window by hitting the esc key. If you want a new director of an inactive window just move the pointer to the window and click the mouse and it will become the active window. Hitting esc will give you a new directory of the window.

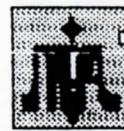
If you want to copy, delete two or more files that are next to each other you can copy them in a group by moving the pointer just above the first file and clicking and holding the left side of the mouse. You will see a elastic box that you can change the size to cover all the files you need to copy or trash. When it is around all the files you need then let go of the left side of the mouse. You can then click one of the files and move or copy as usual. (Note it is easier to understand and use when you directories are in icon format. In text it is tough to get between the file names.)

If you want to copy or delete from an inactive window hold down the right side of the mouse and then you can click one (or more file if you use the shift key as explained in last month newsletter or use the elastic window method) and then move it to the other window or to the trash icon. Don't let up on the right side of the mouse until after you have the moved the files and let up the left side of the mouse.

These hints have come from use of my ST, asking questions and watching others use thier ST, and from various publications or newsletters that I have read.

Reprint

Ross E. Pope



GENie: Online Without an Eye on the Clock

by Robert Ellidge

Reprinted From Modesto Atari Computer Club

On October 1, the General Electric Network for Information Exchange celebrated its first birthday on line. In one year GENie has succeeded in signing up over 23,600 subscribers. Now, this may or may not be a good first year by marketing standards, but there is little doubt what is responsible for those 23,600 subscriptions.

When compared to CompuServe (CIS), the main player in this field, GENie offers savings of from 44% to over 65% in non-prime time charges at 1200 bps. Unlike CIS, there is no 1200 bps surcharge on GENie, though a \$10/hour premium is charged for 2400 bps usage. And for those who like to contribute, you are not charged for time spent uploading files at 300 and 1200 bps. For the few who are online much during prime time, GENie is no bargain at \$35/hour; enough said! Back in the real world, however, as an example of the savings to be had, compare 1200 bps charges from Modesto:

CompuServe:	\$12.50/hr
PDN charges	2.00/hr
=	\$14.50/hr

GENie:	\$5.00/hr
direct line	0.00/hr
=	\$5.00/hr

In areas that generate lighter traffic GE imposes a \$2 per hour communications surcharge (not a PDN charge) but even at \$7 you still have better than a 50% savings.

The Kicker

Registration on Genie costs \$18 which includes a mediocre manual and no free usage credit. Compared to CIS registration which comes in a variety

of flavors ranging from free (bundled with hardware and software) to \$40 when purchased directly from CompuServe, \$18 is no particular bargain; but at \$5/hour, who cares! Well, if you DO, you have the option of FREE REGISTRATION! There are currently three different GENie RoundTables (RTs) - otherwise known as SIGs - that are offering free registration to those who use special access codes when logging on to join. Customer assistance may be able to tell you if the offers are still in effect but why not just try the access code below. It is offered by the Data Based Solutions (the other two are IBM and FreeSoft). This offer doesn't include the manual which is available online (110 K, about a 30 minute download) or offered as a \$10 option during registration. You will need the manual. I haven't seen the \$10 bound version, but the online manual, while it is up-to-date, lacks an index which makes it a bit inconvenient to say the least.

Unlike The Source, neither CIS nor GENie have monthly minimum charges, which means that if you have a modem and a terminal program there is no good reason to put off subscribing. Even when one considers that GENie is dwarfed by the sheer volume of resources available on CIS, it is easy to see the appeal of a well-rounded service which costs less than 8½ cents per minute compared to the competition's 24 cents. Another consideration for those who have spent time on CIS during the evening rush is the relative lack of long delays waiting for the utility's mainframes to play catch-up.



Before You Register

GENie's defaults are 1200 bps at half duplex. If you are operating at 300 bps, type "HHH" as soon as you have a connection. Also, IF YOU WANT TO SEE WHAT YOU ARE TYPING you must request a local echo. To do this, prefix your logon access code with a <CONTROL-R>. This switches GENie to full duplex.

Decide what payment option (Visa, MasterCard, or "CheckFree") you are going to use and have the appropriate numbers at hand. CheckFree is an automatic check debit plan. For more financial details, check out item two on the main menu during registration.

Decide what your password will be. Use at least eight characters (no sermons necessary on the do's and don'ts of passwords).

You will be asked for your mother's maiden name to verify your identity when the GENie representative calls (within 48 hours) to give you your ID number. At that time you will be asked what name/handle (not your password) you wish to use as your GENie mail address. It will cost you \$10 if you decide to change it later on.

And at the risk of insulting: Be sure you have your capture buffer open during the registration procedure. There is a "sampler" available which contains a lot of useful information. Access it by typing TOP at the main menu prompt. You don't have to sign up to access this, so if you want to get an idea of what's online, use either of the codes below and go directly to TOP. You might like to capture the 50-60 Kbytes available to you in this sampler, logoff to take a look at it, and then log back on to sign up. Remember that GENie will only waive the registration fee if you use the correct access code.

GENie

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GENie Sampler and Sign-up

1. Sign up on GENie
2. GENie: Price Schedule
3. GENie: Service Agreement
4. GENie: Local Phone Numbers
5. Logoff

Enter Item #, <P>revious, <S>ign Up, <T>op, or <H>elp? TOP

GENie

TOP

Page 1

GENie Sampler

1. How to use the Sampler
2. GE Mail Electronic Mail
3. News And Commentary
4. GENie LiveWire CB Simulator
5. RoundTables: User Groups & Clubs
6. GENie Game Room
7. Return to Main Menu

Enter Item #, <P>revious, <S>ign Up, <T>op, or <H>elp?

Important GENie Numbers

800-638-9636	customer service
(voice, 8:30am to 12:00pm EST)	
800-638-8369	registration only
(data, 24 hrs)	
209-529-8055	Modesto subscribers
414-769-5700	MILWAUKEE
XJM11991, GENIE	FREE registration
access code	
XJM11932, GENIE	normal registration
(\$18 with manual)	

During registration, GENie telephone listings may be downloaded by area code.

After You've Joined

GENie currently has 27 RoundTables where you will probably be spending most of your time. They contain facilities for real time conferencing, BBS messaging, and public domain software.



Each of the RTs follows pretty much the same arrangement, so learn the ropes on one and the others are a snap. The 27 RTs are divided into three categories; "PC" is the main RT for specific computers and their PD software; "Product Support" is for specific software support; "Other" consists of non-computer topics.

Computer and Support RoundTables:

Macintosh Users, A+ Online, IBM PC, Atari ST, Commodore, BBS (A BBS oriented BBS), Tandy, Telecommunications, Apple II & III, Data Based Forum, Laptops, Atari 8 bit, Microsoft Windows Developers, CP/M, FreeSoft Red Ryder Products, Amiga, Macintosh Developers, TI & Orphans, MichTron Products, Programming, ProTree Products

Other RoundTables

Electronic Hobbyist
NonProfit Connection
Spaceport
Science Fiction & Fantasy
Scuba
Photography

The first time you attempt to enter an RT, you will be asked if you wish to become a member. Simply answer "y" at the prompt and you have joined. Have your capture buffer open when you enter "y" since you will immediately be given an introduction to that RT. Each RT has a main menu (specific to that RT) which is of the form:

1. BBS
2. Conference
3. Libraries
4. Old Bulletins
5. BBS Help..
6. Note on XMODEM...

If you are already a member of an RT you can quickly move to it, or any other menu level, from almost any prompt by typing:

M page#;item# (M is short for MOVE)

The item# is optional. For example, for help with the Atari ST RT BBS from any menu prompt type:

M 457;5

The logon version of this quick move method is:

ID#,P/W,page#;item# e.g.
XYZ,DOITTOIT,457;5e (no white space)

You can also jump to many menus by typing a menu name. A list of these quick move names along with their page numbers may be obtained by typing INDEX at any prompt. Once you have a list of page numbers and know your way around, you can skip the menus and go to a simple DOS-like command line by typing COMMAND or simply C. The commands don't change in this mode and your prompt is the current page number. Toggle the menus back on with another C.

There are plenty of services other than the RoundTables available and GENie has committed itself to adding 1+ new features per month. Check the system NEWS to keep up-to-date.

A couple of quick commands with which to end:

T gives you time, date, and elapsed time online
U ALL lists the GENie address of users currently online

GENie may not be polished and may not have everything online you might hope for, but it works, it's inexpensive, and it's growing.

(It should be noted that GENie is not part of GE's GEISCO, which is primarily a mail facility and reseller of specialized data bases to business and industry.)



By Donald Forbes -- JACG

Reprinted from JACG

LISP, for you and me, is the key to artificial intelligence. Learning to program in LISP is half the battle.

This is the language that has been used for years in the universities to create artificial intelligence projects. LISP is short for List Processing, although some will tell you it stands for 'lots of irritating single parentheses.'

In the United States, LISP is the primary language for AI. In Europe and Japan, however, the language is Prolog (for Programming in Logic).

LISP originated at MIT in the mid 1960s and is based on the general concept of a list. Both programs and data are treated as lists of objects. A list can be broken into a head (the first item on the list) and a tail (the rest of the list, which then becomes a new list). Consequently, the primary mode of programming is through the composition of recursive functions.

Prolog is the logic programming language developed at the University of Marseilles in 1972. A program is a set of logical rules. For example, "All humans are mortal" and "Socrates is human" lets Prolog deduce that "Socrates is mortal." The program arrives at the solution by using built-in pattern matching rules and backtracking strategies to find an answer to the user's problem.

Conventional programming languages do not handle variables the way mathematicians do. In a typical program such as

```
10 READ (X)
20 X = X + 1
30 PRINT (X)
```

the variable X has different meanings at different places in the program. Languages which treat variables in a mathematical fashion are called 'functional languages.' APL, for example, is a functional language organized around the concept of an array. LISP combines the elegance of a functional language with the extremely flexible data structure of lists.

Here is a sample of the way we would program interactively in LISP (the line with the asterisk is our input):

```
*define DOUBLE[x] = x + x
DOUBLE defined
*double[3]
6
```

What we have done here is define a function we have called DOUBLE. The computer accepts the definition. Then we test the definition using the number 3, and the computer responds with the answer.

Now we can define the absolute value as a new function, and combine it with the doubling function we just created, like this:

```
*define ABS[z] = if z < 0
* then -z else z
ABS defined
*ABS[-2]
```

```
2
*DOUBLE[ABS[DOUBLE[-2]]]
8
```

In other words, we double minus 2 (giving -4), take the absolute value (giving 4), and double that to get 8 as the answer. Note that we use conditional expressions (if, then, else) as in other languages.

One important feature of LISP programming is the use of recursive definitions, meaning that a definition can invoke itself within the same definition. This is something that cannot be done in the older languages such as BASIC or COBOL or FORTRAN. However, it can be done in the newer languages such as C and PL/I and PASCAL.

In LISP we can define a Fibonacci series (in which each number in the sequence is the sum of the two preceding numbers ... 1, 1, 2, 3, 5, 8) using recursion, this way:

```
*define FIB[n] = if n < 3 then 1
* else FIB[n - 1] + FIB[n - 2]
FIB defined
*FIB[8]
1,1,2,3,5,8,13,21
```

The strength of LISP lies in the way it handles lists. Here are some sample lists:

```
( )          no elements
(3)          one element
(37 15 -4)   three elements
(3 ( ) TRUE) three elements
(1 ( ) 2 (( )) 3 ((( ))) six elements
```

There are three basic functions for handling lists. HEAD takes the first element. TAIL takes all elements after the first. CONS stands for 'construct' and builds a new list by adding a HEAD to another list. HEAD and TAIL work this way:

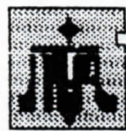
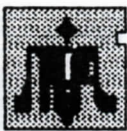
```
*HEAD[(4 5 6 7)]
4
*TAIL[(4 5 6 7)]
(5 6 7)
```

The construct function needs two arguments and works like this:

```
*CONS[3, (4 5)]
(3 4 5)
*CONS[(3), (4 5)]
((3) (4 5))
*CONS[(3, ( ))]
(3)
*CONS[(TRUE FALSE), ( )]
((TRUE FALSE))
```

Now we can define a function that will make a list of numbers by counting up to a given number:

```
*define UPTO[n] = if n = 0 then ( )
* else CONS[n,UPTO[n - 1]]
UPTO defined
*UPTO[0]
( )
*UPTO[3]
(3 2 1)
```

We can also save and manipulate our data as a list, such as this one:

```
(( (NAME (JOHN DOE))
  (FATHER (JACK DOE) (BLOODTYPE (A POS)))
  (MOTHER (JANE DOE) (BLOODTYPE (O NEG))))))
```

Note that in this instance we have twelve left parentheses, which must be balanced in turn by twelve right parentheses -- twentyfour in all!

So now you have a short overview of the language. It differs from other programming

languages in that it is built around the mathematical notion of a function, and uses the data structure of lists. We have seen how functions can be written in LISP, and indicated how it might be possible to manipulate data objects that can be extremely complex.

One feature that makes LISP unique among the high level languages is that, in LISP, some data structures can be viewed two different ways, either as data or program. When seen as a program, expressions can be executed and return a value. When seen as data, they may be used as arguments for other programs. This means that if we think of a LISP program as a piece of data, then we can write programs directly in LISP which transform them into more useful programs.

If you are interested in a mathematician's view of LISP see the 11-page article (supported by a National Science Foundation grant) written by Mitchell Wand of the computer science department of Indiana U. in the Jan 84 issue of the American Mathematical Monthly of the Mathematical Assoc. of America. (The Aug 79 BYTE was a LISP issue.)

What next?

Well, if you have access to a standard PC at the office, you can buy a public domain version called XLISP which includes 34 pages of documentation, six sample programs and 24 files of source code. You will have to order disk number 148 for XLISP version 1.4 from PC-SIG, 1030D East Duane Ave., Sunnyvale CA 94086 (800)245-6717 for \$10 (disk \$6, handling \$4). If you are willing to wait until I get my copy, give me a blank disk.

The yearly paychecks of AI experts run \$50,000 and up, so the natural question is: What do they know that we don't?

XL/XE Power Supplies A HARDWARE MYSTERY SOLVED

by Jim Finley

As SysOp of the Help Key, I have received repeated reports from callers telling me their Atari XM-301 (direct connect modem) has been giving them trouble and recently more reports from callers who have just hooked up their newly purchased P:R: Connection (a direct connect interface for RS232 & parallel printer ports from I.C.D.). It is natural for a user to suspect the newly purchased piece of equipment to be the cause of strange problems they never had before they acquired either of these direct connect components. The first thing I did was ask other users who owned XM-301's and or P:R: interface if they had experienced similar problems. To my surprise just as many users reported NO problem with the same equipment arrangement. The next step taken was to try an XM-301 on my equipment. The XM-301 that didn't work on my friends 800XL worked fine on both my 130XE & 800XL. No doubt about it, the XM-301 was working fine. What could it be, all the equipment was the same EXCEPT the power supply! I looked through all my specification books but no information relating to the power supply was to be found.

Before going any further, I would like to explain that there are 4 major types of power supplies that have been shipped with the XL/XE series computers.

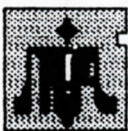
Type I - was shipped with early production 800XL's until about the winter of 1984. It has a white cover w/black base. Measures 9" long 4" wide and about 2 1/2" high. It is the only power supply made in Hong Kong.

Type II - appeared in 1984 prior to the Tramiel take over and seems to be the most frequently encountered. It is also the heaviest, hottest and ugliest of 4 power supplies. The added weight is due to the inside of the supply being filled with epoxy which makes it impossible to repair.

Type III - is the same size as type I but is all black in color. It is the only supply which specifies use on the 800XL & 600XL.

Atari XL/XE Power Supply Characteristics

Characteristic	I	II	III	IV
esthetic appeal	superb	rotten	nice	so-so
for accessibility	easy	impossible	easy	difficult
of repair	easy	impossible	easy	tedious
Rated Amperes	1.5	1.5	1.5	1.5
Volts	5.0	5.0	5.0	5.0
Measured Amperes	1.44	1.15	1.29	0.93
Volts	4.90	4.90	4.90	4.90



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Type IV - has been available since spring of 1985. It is the smallest, lightweight, coolest and most sophisticated (electronically) of the XL supplies. It is also the standard supply shipped with the 130XE. This supply is slightly larger than the type 2 supply and has a silver metal label displaying the specs.

Now getting back to the research. While trying to figure out what the differences between the supplies were, a friend at work gave me the May 86 issue of Modern Electronics magazine and told me there's an article about Atari computer power supplies. What a break! All the information I've been looking for. Schematics of each supply, specs and a comparison pointing out the differences and benefits of each supply. All the information needed to answer my questions in a seven page magazine article.

The information gathered from Modern Electronics was more than I had hoped for. It not only explained why my friends XM-301 acted the way it did on his system but pointed out how to repair the supplies, except the type 2 supply of course.

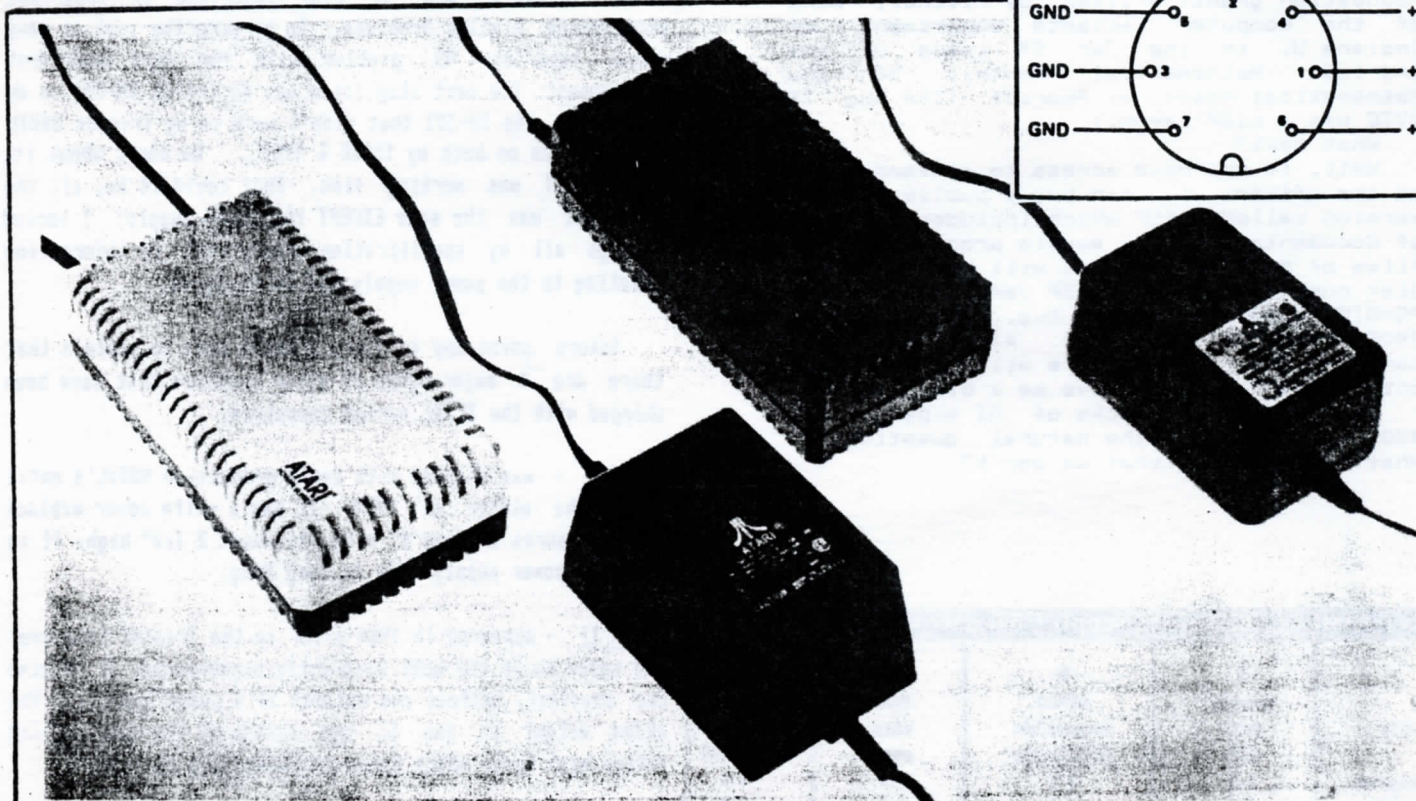
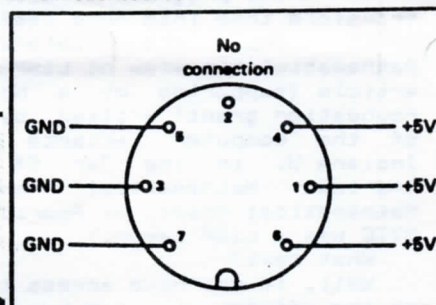
My friend has a type 4 power supply. It not only has the lowest power output but has a pass transistor used in the supply which if a short occurs between the emitter and collector terminals, full 10 volts DC is passed to the

computer. The end result, your computer fries! Though such a disastrous condition is unlikely to occur, the possibility does exist. This supply was the pain in the neck causing the XM-301 to malfunction. The modem worked fine when using the other 3 supplies.

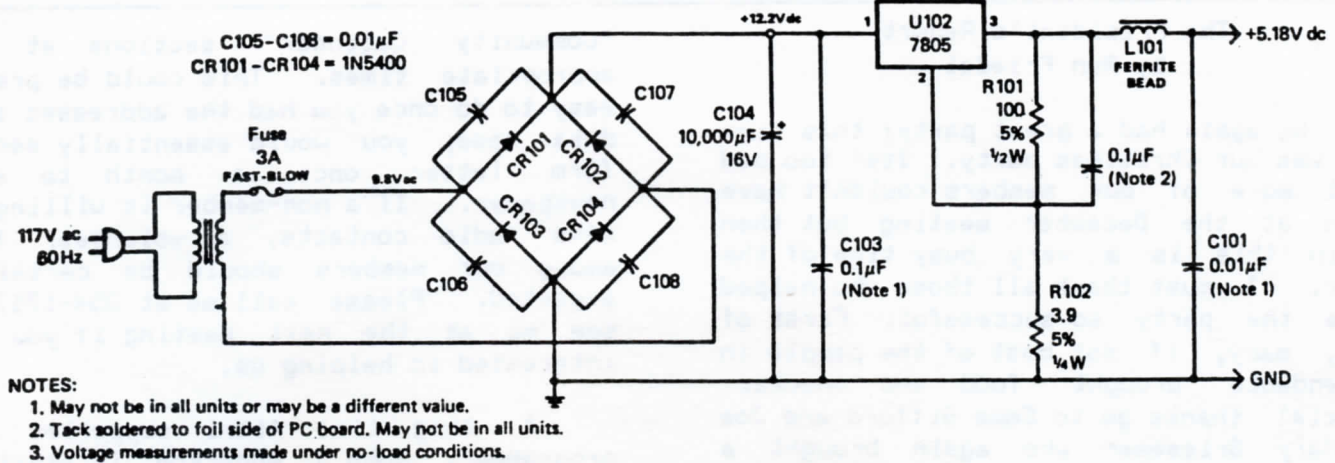
The type 4 supply doesn't even deliver 1 ampere under normal usage and with a modem that depends on the power of the computer to function, the type 4 supply is a real dog. While this lack of power doesn't hamper the operation of the computer, it does suggest a slimmer reliability margin in locations where AC line voltage is subject to fluctuation.

My friend has decided to purchase another power supply from a mail order house for \$35.00. He said it's a small price to pay for all the headaches he has been having.

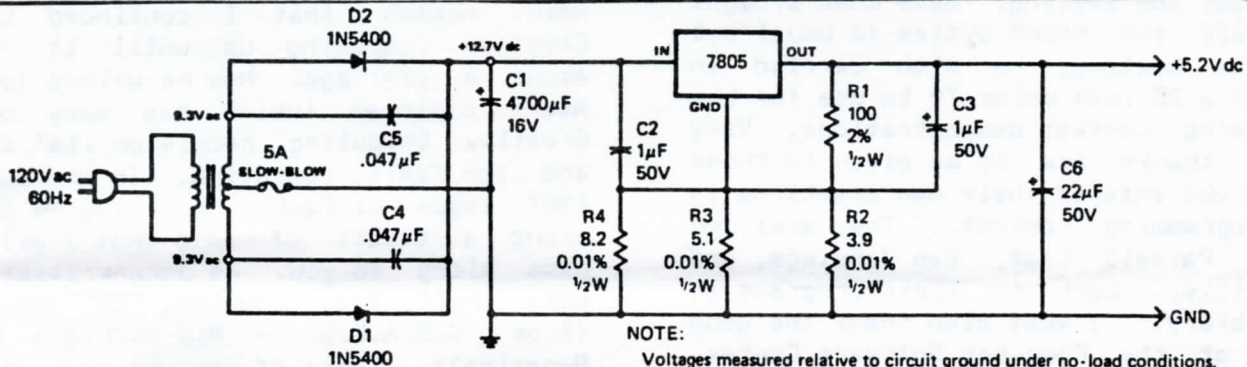
The schematics that accompany this article were taken from the Modern Electronic's article. Believe me, without these specs and drawings, you could end up in a world of confusion trying to figure out why certain equipment works on your friends system but not on your own system even though the systems seem to be identical.



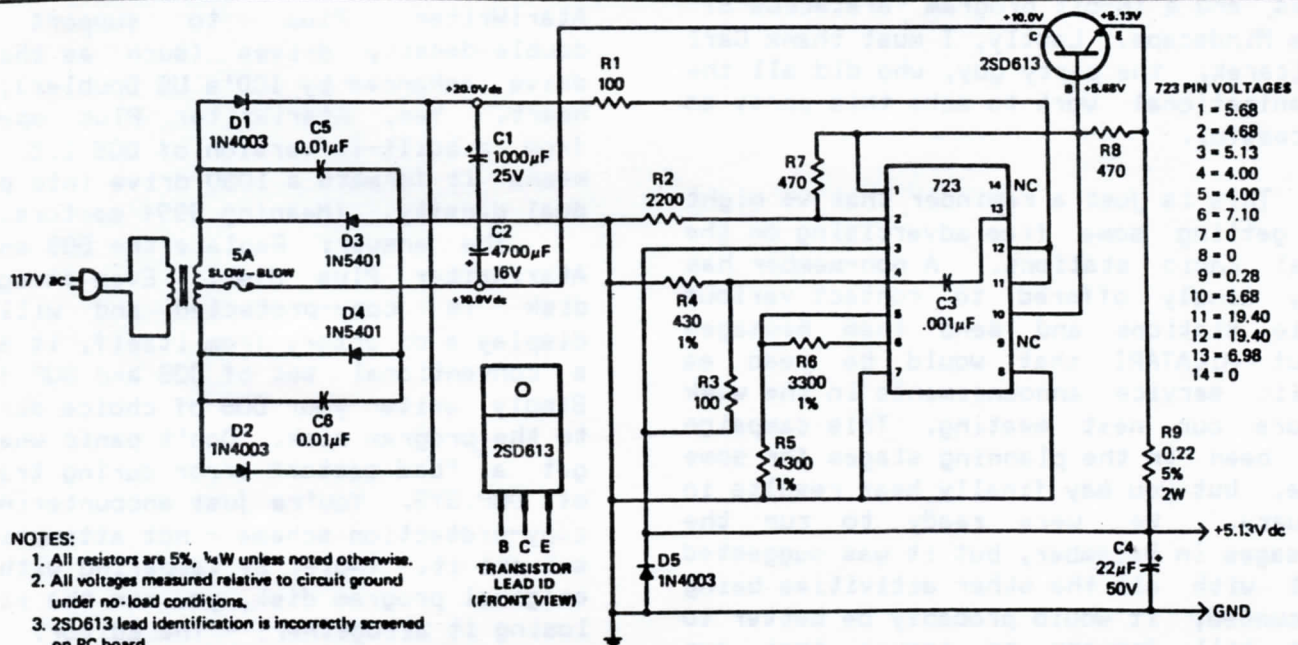
Pictured above, TYPE I (left), II (front center), III (rear center), and IV (right) power supplies for the Atari XL/XE computer line. (Photo by D.P. John)



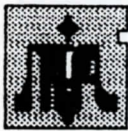
This is the schematic diagram of the Type I power supply. Component designations in all schematics correspond to locations screened on pc boards.



Schematic diagram of the Type III power supply.



Schematic diagram of the Type IV power supply.



The President's Report by Ron Friedel

We again had a great party; this time it was our Christmas party. It's too bad that more of our members couldn't have been at the December meeting but then again this is a very busy time of the year. I must thank all those who helped make the party so successful. First of all, many, if not most of the people in attendance brought food and snacks. Special thanks go to Emma Gifford and Joe & Mary Griesemer who again brought a nicely decorated sheet cake for all to enjoy. Everyone had lots to eat throughout the meeting. Dave Coak brought his music and sound system as usual but for this meeting, he also carried in (heavy!) a 25 inch color TV to use for the programming contest demonstrations. Very special thanks are to be given to those members who entered their own creations in our programming contest. They are: Jon Duvall, Parnell Coak, Ken Jennings, and Tom Wuttke. Look for their programs in our library. I must also thank the good people at the Computer Software Center, who donated 6 "peanut paks" of 5 1/4" disks and a 16-bit program "Brataccus ST" from Mindscape. Lastly, I must thank Carl Mielcarek, the party guy, who did all the organizational work to make this party so successful.

This is just a reminder that we might be getting some free advertising on the local radio stations. A non-member has very kindly offered to contact various radio stations and send them messages about MILATARI that would be read as public service announcements in the week before our next meeting. This campaign has been in the planning stages for some time, but you may finally hear results in January. We were ready to run the messages in December, but it was suggested that with all the other activities being announced, it would probably be better to wait till January to insure that our message would not be overlooked.

I would like to ask for a volunteer to contact the various newspapers in the area and place our meeting notices in the

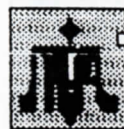
"Community Calendar" sections at the appropriate times. This could be pretty easy to do once you had the addresses in a data base; you would essentially send a form letter once a month to each newspaper. If a non-member is willing to make radio contacts, a volunteer from among our members should be certainly expected. Please call me at 354-1717 or see me at the next meeting if you are interested in helping us.

A long time Atari supporter and programmer, John J. Anderson, is starting to write about Atari again. He used to write for Creative Computing and was the main reason that I continued buying Creative Computing up until it folded about a year ago. Now he writes for the Atari Explorer (which has many of the Creative Computing people on its' staff) and for Family Computing. In the January 1987 issue of Family Computing he passes along a tidbit of info that I will now pass along to you. As John writes: "One more 8-bit tip, courtesy of John Nagy (from C.H.A.O.S. - Mid-Michigan Atari Magazine): Those of you who have written to complain of the inability of AtariWriter Plus to support true double-density drives (such as the 1050 drive enhanced by ICD's US Doubler), take heart. Yes, AtariWriter Plus operates from a built-in version of DOS 2.5. That means it formats a 1050 drive into pseudo dual density. (Meaning 999+ sectors.)"

The answer: Replace the DOS on your AtariWriter Plus disk. Even though the disk is copy-protected and will not display a directory from itself, it sports a conventional set of DOS and DUP files. Simply write your DOS of choice directly to the program disk. Don't panic when you get a "bad-sector" error during transfer of DUP.SYS. You're just encountering the copy-protection scheme - not attempting to subvert it. (Note: By tampering with your original program disk, you run the risk of losing it altogether! - The Editor)

With a DOS such as SMARTDOS, you'll come up with true double-density when running AtariWriter Plus. This works on both the regular and 130XE versions.

Please note that if the DOS you install does not support AUTORUN.SYS



files, you must be sure to rename the AUTORUN.SYS file on the AtariWriter Plus disk to whatever name it must take to autoboot under your chosen DOS.

I've been using the 8-bit Ataris for about 5 years now and finally started using a spreadsheet program. The three types of programs that are most used in business are word processing, data base managers, and spreadsheets. I have been using the first two for a long time now but because of the wish to get our family on a budget, I recently purchased SynCalc. It certainly is easy to enter 6 months worth of checks and track where we spent our money. I have an 800XL (with 256K RAM) and I have 84K for my spreadsheet. This might be enough room for a whole years worth of checks but why take a chance; split it into two parts. I am looking forward to the annual ANTIC income tax template; I had been buying and using the TAX ADVANTAGE in the past to figure my taxes.

The next meeting, January 17, 1987, will be held at Armbruster School. Same time, same place. January is the usual month for the swap meet and this January will be no different. We are going to have a disk special at the January meeting. Both 8-bit and 16-bit public domain software disks will be on sale; 4 disks for the price of three. So look over the library and buy a few disks.

We will start meeting at UW-M in February. A map should be in the next newsletter to give you a better idea of the location. So check out the map and engage your autopilot and cruise control for the February meeting at UW-M.

See you on January 17th, at Armbruster School. Ron.

Ninja Reviewed
By David Friedel

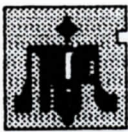
Ninja
Mastertronic International Inc.
7311B Grove Road
Fredrick, Maryland 21701, USA
\$5-\$10

'I look down the walkway, and there is a Thug. He sees me and gets into his fighting stance. I walk up to him and pop him in the head with my sword. One down, many to go. I then walk into the Torii, and see a Karateka. I shout "Prepare to die!" and I run at him. I hit him with a bad body kick, and he counters with a smack to my head with a fist. Not to be out done, I jump back and unload my spinning death stars, killing him instantly. Into the Shijo Entrance, where I see a Evil Ninja. These scum must be fought with Karate, so I come in showing off my karate. Bad move, it woke him up. I come in with a high kick and counter with a low kick, but he doesn't take time and he strikes me off with a blast from his sword. I'm dead'

This is what happens in the game called Ninja, you kill others, and then you get whupped. The object is to collect idols, and work your way up to the Princess DiDi and save her. (The old guy save girl routine) Every level higher you get, the harder it becomes. The evil enemies gang up on you, Evil Ninja's use their swords, more. The nice things about this game is the ability to use weapons, (Spinning death stars, and Sword) and it is a bit challenging. The complaint I have is that you cannot do a spinning back kick, or another fancy kick. All that you can do are high, body, low kicks or punches. But the use of weapons makes up for this. The documentation is not good either. But overall it is a very fun and enchanting game. The price is good to.

IF YOU FEEL YOU'RE INDISPENSABLE TRY PUTTING YOUR FINGER IN A GLASS OF WATER. WITHDRAW IT AND NOTE THE HOLE YOU'VE LEFT!

***Nothing is impossible
for the man who doesn't
have to do it himself.***



New Public Domain ST Disks Being Added in January

The following new ST disks will be added to our public domain ST library. I've listed some of the featured programs on these disks. They all contain additional programs and are filled to single-sided capacity. The cost is \$5.00 for each disk. This covers the disk and copying costs.

<u>NUM</u>	<u>DISK TYPE</u>	<u>INCLUDED PROGRAMS</u>
061	Utility	Aviation navigation program, & a PD speech synthesizer
062	Utility	Assembler, command shell directory lister, & a Degas-to-GEM font converter, & Mouse Medic.
063	Games	Daleks, Night Crawlers, & the Original Adventure.
064	Demo	TOS Demo.
065	Utility	Desksongs, GEM formatter, & PD spelling checker.
066	Utility	Clipboard, Marquee, PC Command, & Backup.
067	Utility	Mouse Editor, Folder-to-Randisk, RLE Picture Viewer.
068	Demo	Demo of 3-D game. 3-D glasses needed for viewing.
069	Tiny Pic	Big Bird, Bill the Cat, and Blues Brothers pictures.
070	Tiny Pic	Picture of the Capitol Building, several pictures featuring Bugs Bunny, & several clip art pictures.

Dennis Wilson
ST Public Domain Librarian.

SWAP FEST SPECIAL:
Buy 3 Club Disks - Get the 4th FREE!

MILWAUKEE AREA ATARI USER'S GROUP AND NEWSLETTER INFORMATION

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NEWSLETTER INFORMATION

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Your contributions of articles are always welcome. You may submit your article on ATARI compatible cassette or diskette, on typewritten form or you can arrange with the editor to upload your file via modem. You can send Graphics eight or seven plus screens stored on disk in Micropainter or Micro Illustrator formats.

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24 Hours 414-781-5710

Milwaukee Area Atari User's Group

MILATARI is an independent, user education group which is not affiliated with ATARI INC. The newsletter is the official publication of MILATARI and is intended for the education of its members as well as for the dissemination of information concerning ATARI computer products.

MILATARI membership is open to individuals and families who are interested in using and programming ATARI computers. The membership includes a subscription to this newsletter and access to the club libraries. The annual membership fee is \$20 for individuals or \$25 for a family.

Vendors wishing to display and/or sell items at MILATARI meetings must make prior arrangements with the club vice president. Rates are \$10 per meeting or \$90 per year payable in advance.

All material in this newsletter not bearing a COPYRIGHT message may be reprinted in any form, by school and college publications, personal computing club newsletters, and other non-profit publications, provided that MILATARI and the author are given credit.

Other computer user groups may obtain copies of this newsletter on an exchange basis.

MILATARI ADVERTISING RATES

This newsletter will accept camera ready advertising copy from anyone supplying goods and services of interest to our membership.

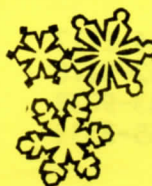
Current paid members of MILATARI may place classified ads in the newsletter at no charge.

Advertising Rates

Full page	\$37.50
Half page	\$20.00
Quarter page	\$12.50
Business card	\$2.00

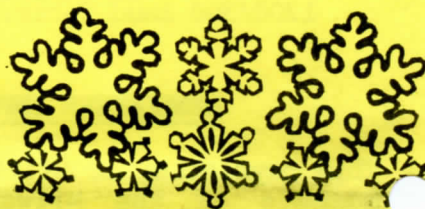


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